CLAIMS

1.   A method of determining at least one cue of
vertical position of an aircraft (A) during landing
thereof on a landing strip (2), in the presence of a
lateral alignment beam (3, 3B) which is emitted from
the ground and which gives an indication regarding the
lateral alignment with respect to the landing strip
(2),
wherein:
a)   said lateral alignment beam (3, 3B) is detected on
      the aircraft (A);
b)   on the basis of cues relating to said lateral
      alignment beam (3, 3B) thus detected and of
      predetermined cues, an axis of approach of the
      aircraft (A) is determined;
c)   the actual position of the aircraft (A) is
      determined;
d)   a preset position of the aircraft (A) is
      determined, which corresponds to the position that
      the aircraft (A) would have if it were on said
      approach axis; and
e)   on the basis of said actual position and of said
      preset position of the aircraft (A), the vertical
      deviation of the aircraft (A), which represents
      said vertical position cue, is computed.

2.   The method as claimed in claim 1,
wherein, in step b), to determine said approach axis:
α)   a set of first axes all passing through one and
      the same predetermined point situated on the
      ground at least in proximity to said landing strip
      (2) and all exhibiting one and the same
      predetermined slope is formed; and
β)   a first axis of said set of first axes, whose
      projection onto a horizontal plane is parallel to
      the projection onto this horizontal plane of said
      lateral alignment beam (3, 3B) detected, is chosen
      as approach axis.

3.   The method as claimed in claim 1,
wherein, in step c), the actual position of the
aircraft (A) is determined on the basis of values of
longitude, of latitude and of altitude of the aircraft
(A).

4.   The method as claimed in claim 3,
wherein the value of altitude of the aircraft (A) is
obtained with the aid of at least one measurement
carried out by at least one barometric probe (19).

5.   The method as claimed in claim 3,
wherein the altitude value which is measured is
corrected, as a function of the temperature on the
ground.

6.   The method as claimed in claim 5,
wherein the altitude value Am measured is corrected
with the aid of the following expression, to obtain a
corrected altitude value Ac:
$Ac = (Am-Ap).(T1/T2) + Ap$
in which:
-      Ap represents the altitude of the landing strip
       (2);
-      T1 is the temperature on the ground; and
-      T2 is a predetermined temperature value.

7.   The method as claimed in claim 5,
wherein the altitude value is corrected only if the
temperature on the ground is less than a predetermined
temperature value.

8.   The method as claimed in claim 3,
wherein the altitude value measured is corrected in
such a way as to obtain a corrected altitude value QNH
which is referenced with respect to the level (28) of
the sea (29).

9.   The method as claimed in claim 8,

wherein, when the measured altitude value QFE is referenced with respect to the landing strip (2), it is corrected, with the aid of the following expression, to obtain the corrected altitude value QNH:

QNH = QFE + Ap,

in which Ap represents the altitude of the landing strip (2).

10.   The method as claimed in claim 8,

wherein, when the measured altitude value is a standard altitude STD, it is corrected, with the aid of the following expression, to obtain the corrected altitude value QNH:

QNH = STD + Δ with Δ = QNHp $-$ β,

QNHp being a value dependent on the atmospheric pressure at the level of the landing strip (2) and β being a predetermined value.

11.   A method of guiding an aircraft (A) during landing thereof on a landing strip (2), in the presence of a lateral alignment beam (3, 3B) which is emitted from the ground and which gives an indication regarding the lateral alignment with respect to the landing strip (2),

wherein the following series of successive operations is carried out repetitively up to landing:

A/   the method specified under claim 1 is implemented to determine the vertical deviation of the aircraft (A);

B/   the lateral deviation of the aircraft (A) with respect to said lateral alignment beam (3, 3B) detected is determined; and

C/   the aircraft (A) is guided in such a way as to cancel out said vertical and lateral deviations.

12.   A device for determining at least one cue of vertical position of an aircraft (A) during landing thereof on a landing strip (2), in the presence of a

lateral alignment beam (3, 3B) which is emitted from the ground and which gives an indication regarding the lateral alignment with respect to the landing strip (2),

5 which comprises:

- a means of detection (7) for detecting said lateral alignment beam (3, 3B) on the aircraft (A);

- a database (8) comprising cues relating to landing
10 on said landing strip (2);

- a first means (9) for determining an axis of approach of the aircraft (A), on the basis of cues relating to said lateral alignment beam (3, 3B) that are received from said means of detection
15 (7), and cues received from said database (8);

- a second means (14) for determining the actual position of the aircraft (A);

- a third means (12) for determining a preset position of the aircraft (A), which corresponds to
20 the position that the aircraft (A) would have if it were on said approach axis; and

- a fourth means (15) for computing, on the basis of said actual position and of said preset position of the aircraft (A), the vertical deviation of the
25 aircraft (A), representing said vertical position cue.

13. The device as claimed in claim 12,
wherein said first and second means (9, 20) form part
30 of one and the same computation unit (UC1).

14. The device as claimed in claim 12,
wherein said third and fourth means (12, 15) form part
of one and the same computation unit (UC2).
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15. An aircraft,
which comprises a device able to implement the method
specified under claim 1.